## **EXETER STORMWATER RESILIENCE ECONOMIC BENEFITS OF FLOOD AVOIDANCE**



Photo: Flooding at Exeter Town Landing March 2018 Nor'easter

## Green Infrastructure and **Climate Adaptation**

- 1. New Hampshire coastal communities have experienced rising populations resulting in an increase in impervious surfaces, stormwater runoff, and associated flooding.
- 2. At the same time, communities are faced with a changing climate including extreme rainfall events and sea-level rise.
- 3. Green infrastructure is an important form of climate adaptation which can have significant economic benefits for flood damage avoidance.
- 4. The Exeter Resilience project conducted a cost impact analysis to evaluate the potential for flood damage avoidance with implementation of green infrastructure.

## Flood Damage Avoidance

- 1. The cost impact analysis graphic at right shows the potential for flood damage avoidance with implementation of green infrastructure.
- 2. The estimated flood loss from a current 10-year storm is \$6.11 million or \$3.43 million with green infrastructure, a 51% reduction.
- 3. The total estimated cost to implement green infrastructure at 14 sites is \$689,000.
- 4. The greatest benefit is from small sized Best Management Practices that provide water guality and flood protection for a 0.5" storm, the most frequent annual rainfall event.









6

Damage Cost \$ MIllions

0



1.15

Building

**Baseline Flooding** 



Scenario

**Business** 



Flooding with 0.5" BMPS

0.18

Building

3.25

**Business** 

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## Green Infrastructure Flood Reduction



Damage in \$ Millions for 10-YR 24 Hour Storm Baseline Flooding vs. 0.5" WQV BMPs

4.95